Claims

1. Process for laminating plies of tissue paper, which comprises

   - combining and embossing at least two plies of tissue paper together in at least one embossing nip so that the plies are provided with substantially identical embossing patterns which consist of embossing protrusions,
   - separating the embossed plies to obtain separated plies, and
   - displacing and recombining the separated plies relative to each other, with the embossing protrusions of the plies extending in the same direction, to form a laminated tissue paper,

   wherein the displacing and recombining step is performed such that, in the laminated tissue paper, the maximum distance D in the displacement direction between an embossing protrusion of a first ply and an embossing protrusion of a second ply, which is displaced relative to said first ply, is set as a function of the height H of the embossing protrusions and the length L of the embossing protrusions in the displacement direction of the two plies, so that D is equal to the smaller one of the values of 12H and 14L.

2. Process as claimed in claim 1, wherein D is equal to the smaller one of the values of 8H and 10L.

3. Process as claimed in claim 1, wherein D is equal to the smaller one of the values of 6H and 8L.

4. Process as claimed in claim 1, wherein at least one further tissue ply is superposed to the laminated tissue paper.

5. Process as claimed in claim 4, wherein the at least one further tissue ply is also a recombined tissue paper manufactured in the process.

6. Process as claimed in claim 1, wherein the plies are laminated by at least one of mechanical ply bonding and adhesive ply bonding.

7. Process as claimed in claim 6, wherein mechanical ply bonding is achieved by high pressure or ultrasonic welding.

8. Process as claimed in claim 6, wherein adhesive ply bonding is achieved by covering at least some of the protrusions of at least one of the plies with glue before the plies are recombined.

9. Process as claimed in claim 6, wherein adhesive ply bonding is achieved by applying glue in narrow strips along an edge of at least one of the tissue plies.

10. Process as claimed in claim 1, wherein the displacement of the separated plies relative to each other is effected in the direction of movement of the paper plies through the at least one embossing nip.

11. Process as claimed in claim 1, wherein the displacement of the separated plies relative to each other is effected in a direction transverse to the movement of the paper plies through the at least one embossing nip.

12. Laminated tissue paper comprising at least two plies with substantially identical embossing patterns, said embossing patterns consisting of embossing protrusions, wherein said at least two plies are displaced relatively to each other in a displacement direction, and laminated

with the protrusions of the plies extending in the same direction, and the maximum distance D in the displacement direction between an embossing protrusion of a first ply and an embossing protrusion of a second ply, which is displaced relative to the first one, is set as a function of the height H of the embossing protrusions and the length L of the embossing protrusions in the displacement direction so that D is equal to the smaller one of the values of 12H and 14L.

13. Laminated tissue paper as claimed in claim 12, wherein D is equal to the smaller one of the values of 8H and 10L.

14. Laminated tissue paper as claimed in claim 12, wherein D is equal to the smaller one of the values of 6H and 8L.

15. Laminated tissue paper as claimed in claim 12, comprising at least one further tissue ply which is superimposed to the laminated tissue paper.

16. Laminated tissue paper as claimed in claim 15, wherein the at least one further tissue ply is another laminated tissue paper.

17. Process as claimed in claim 12, wherein the plies are laminated by at least one of mechanical ply bonding and adhesive ply bonding.

18. Laminated tissue paper as claimed in claim 15, wherein the at least one further tissue ply is also a laminated tissue paper comprising at least two plies with substantially identical embossing patterns, said embossing patterns consisting of embossing protrusions, wherein said at least two plies are displaced relatively to each other in a displacement direction, and laminated with the protrusions of the plies extending in the same direction, and the maximum distance D in the

displacement direction between an embossing protrusion of a first ply and an embossing protrusion of a second ply, which is displaced relative to the first one, is set as a function of the height H of the embossing protrusions and the length L of the embossing protrusions in the displacement direction so that D is equal to the smaller one of the values of 12H and 14L.